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**NOTICE OF ALLOWANCE AND FEE(S) DUE**

7590

06/15/2005

John S. Beulick  
 Armstrong Teasdale LLP  
 Suite 2600  
 One Metropolitan Square  
 St. Louis, MO 63102

EXAMINER

KIKNADZE, IRAKLI

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 06/15/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,844	09/12/2003	Thomas Louis Toth	135486	8543

TITLE OF INVENTION: METHODS AND APPARATUS FOR TARGET ANGLE HEEL EFFECT COMPENSATION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	09/15/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

**HOW TO REPLY TO THIS NOTICE:****I. Review the SMALL ENTITY status shown above.**

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

**II. PART B - FEE(S) TRANSMITTAL** should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

**III. All communications regarding this application must give the application number.** Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

By:

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PTOL-85 (Rev. 12/04) Approved for use through 04/30/2007.

ENTERED  
 Date: 6/20/05  
 By: mcr  
 12553-373

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,844	09/12/2003	Thomas Louis Toth	135486	8543
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John S. Beulick Armstrong Teasdale LLP Suite 2600 One Metropolitan Square St. Louis, MO 63102				EXAMINER KIKNADZE, IRAKLI
				ART UNIT 2882
PAPER NUMBER				
DATE MAILED: 06/15/2005				

### Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

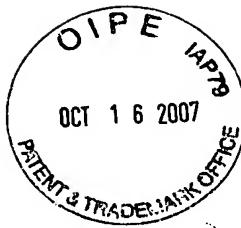
The Patent Term Adjustment to date is 131 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 131 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571) 272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

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<b>Notice of Allowability</b>	Application No.	Applicant(s)
	10/661,844	TOTH ET AL.
	Examiner	Art Unit
	Irakli Kiknadze	2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to the Amendment filed on 5/23/05.
2.  The allowed claim(s) is/are 1-37.
3.  The drawings filed on 12 September 2003 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

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Art Unit: 2882

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## DETAILED ACTION

1. In response to the Office action dated March 23, 2005 the Amendment has been received on May 23, 2005.

Claims 1, 13, 16 and 27 have been amended.

Claims 1-37 are currently pending in this application.

### *Allowable Subject Matter*

2. Claims 1-37 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Claims 1-11 are allowed because prior art fails to teach or make obvious a method positioning a filter having an anode side and a cathode side between an X-ray source and an X-ray detector, wherein the cathode side has a higher attenuation coefficient than the anode side, and wherein the attenuation coefficient is determined to at least partially compensate for an x-ray tube target angle heel effect as claimed in claim. Claims 2-11 are allowed by virtue of their dependence.

Claims 12-15 are allowed because prior art fails to teach or make obvious an X-ray tube comprising: a material deposited on a beryllium window, wherein the material is wedge shaped, wherein the wedge shape comprises a horizontal top, a bottom, a first vertical side and a second vertical side, wherein said horizontal top and said bottom are not parallel and wherein the first vertical side and said second vertical side are unequal in length as claimed in claim 12. Claims 13-15 are allowed by virtue of their dependence.

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Claims 16-26 are allowed because prior art fails to teach or make obvious an imaging system for scanning an object comprising: a filter having an anode side and a cathode side, positioned between a radiation source and a detector, wherein the cathode side has a higher attenuation coefficient than the anode side, and wherein the attenuation coefficient is determined to at least partially compensate for a target angle heel effect as claimed in claim 16. Claims 17-26 are allowed by virtue of their dependence.

Claims 27-37 are allowed because prior art fails to teach or make obvious a Computed Tomopaphy (CT) imaging system for scanning an object comprising: a filter having an anode side and a cathode side, positioned between an x-ray source and an x-ray detector, wherein the cathode side has a higher attenuation coefficient than the anode side, and wherein the attenuation coefficient is determined to at least partially compensate for a target angle heel effect as claimed in claim 27. Claims 28-37 are allowed by virtue of their dependence.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grossmann (US Patent 2,225,940) and Moore (US Patent

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4,181,858) teach the wedge shape compensating filters for X-ray sources but fail to teach compensation for the x-ray tube target angle heel effect. Hartwell (US Patent 4,499,591) teaches a protective filter attached to an X-ray radiation source but fails to teach that the filter has a wedge shape and provides compensation for the x-ray tube target angle heel effect.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irakli Kiknadze whose telephone number is 571-272-2493. The examiner can normally be reached on 9:00- 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Irakli Kiknadze  
June 7, 2005



EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER

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<b>Notice of References Cited</b>		Application/Control No. 10/661,844	Applicant(s)/Patent Under Reexamination TOTH ET AL.	
		Examiner Irakli Kiknadze	Art Unit 2882	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,499,591	02-1985	Hartwell, Gary	378/62
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.